



# Turner B #113

## REMEDIATION WORK PLAN

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API No. 30-015-29573

Release Date: July 13<sup>th</sup>, 2012

Unit Letter N, Section 30, Township 17 South, Range 31 East

NMOCD Case #: 2R-1241

**April 7, 2016**

**Prepared by:**

Michael Burton, Environmental Operators Director  
Environmental Department  
Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
Phone: (575)964-8394  
Fax: (575)393-8396

Mike Bratcher  
Environmental Specialist  
NM Oil Conservation District-Division 2  
811 S. First St.  
Artesia, NM 88210

**RE: Linn Energy Turner B #113 – Remediation Work Plan**  
UL/N, Section 30, T17S, R31E  
API No. 30-015-29573  
NMOCD Case #: 2R-1241

Mr. Bratcher,

Linn Energy (Linn) has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located east of Loco Hills, NM, in Eddy County. The spill site resulted from a poly flow line failure, releasing a total of 8 barrels of produced water, with 4 barrels recovered. The impacted area is approximately 50 yards west of the Turner B #56 injection well and covers an approximately 30'x25' area. An initial C-141 was submitted to the NMOCD on July 26, 2012 and approved on August 1, 2012 (Appendix I).

### **Site Assessment and Delineation**

On August 8, 2014, DFSI personnel were on site to obtain samples within the leak area (Figure 1). Five samples, surface and with depth, were obtained and sampled for chloride levels as well as BTEX. The BTEX samples was performed using a Mini Rae Photoionization Detector (PID). All clean field samples under NMOCD and BLM regulatory guidelines were submitted for analysis at Cardinal Laboratories of Hobbs, NM to obtain confirmation (Appendix II).

DFSI has conducted a groundwater study of the area and has determined that according to the New Mexico Office of the State Engineer the average depth to groundwater for this area is 350 foot below ground surface (Appendix III). Therefore, no eminent danger of groundwater impact or threat to life is anticipated.

## Conclusion

After careful review DFSI, on behalf of Linn Energy, would like to propose the following:

In the area of SP1, blend and seed with a BLM approved seed mix. Excavate SP2, SP3 and SP4 to a depth of 4' bgs. At the base of the excavation, a 20-mil reinforced poly liner or river rock will be installed to inhibit the downward migration of constituents. The entire area will be backfilled with clean, native soil to ground surface and contoured to the surrounding area. The site will be seeded with a BLM approved seed mix.

Following the approval of the above plan, DFSI will submit all proper closure documentation to the NMOCD and BLM in accordance to the State and Federal Guidelines set forth.

Please feel free to contact me with any questions concerning this remediation plan request.

Sincerely,

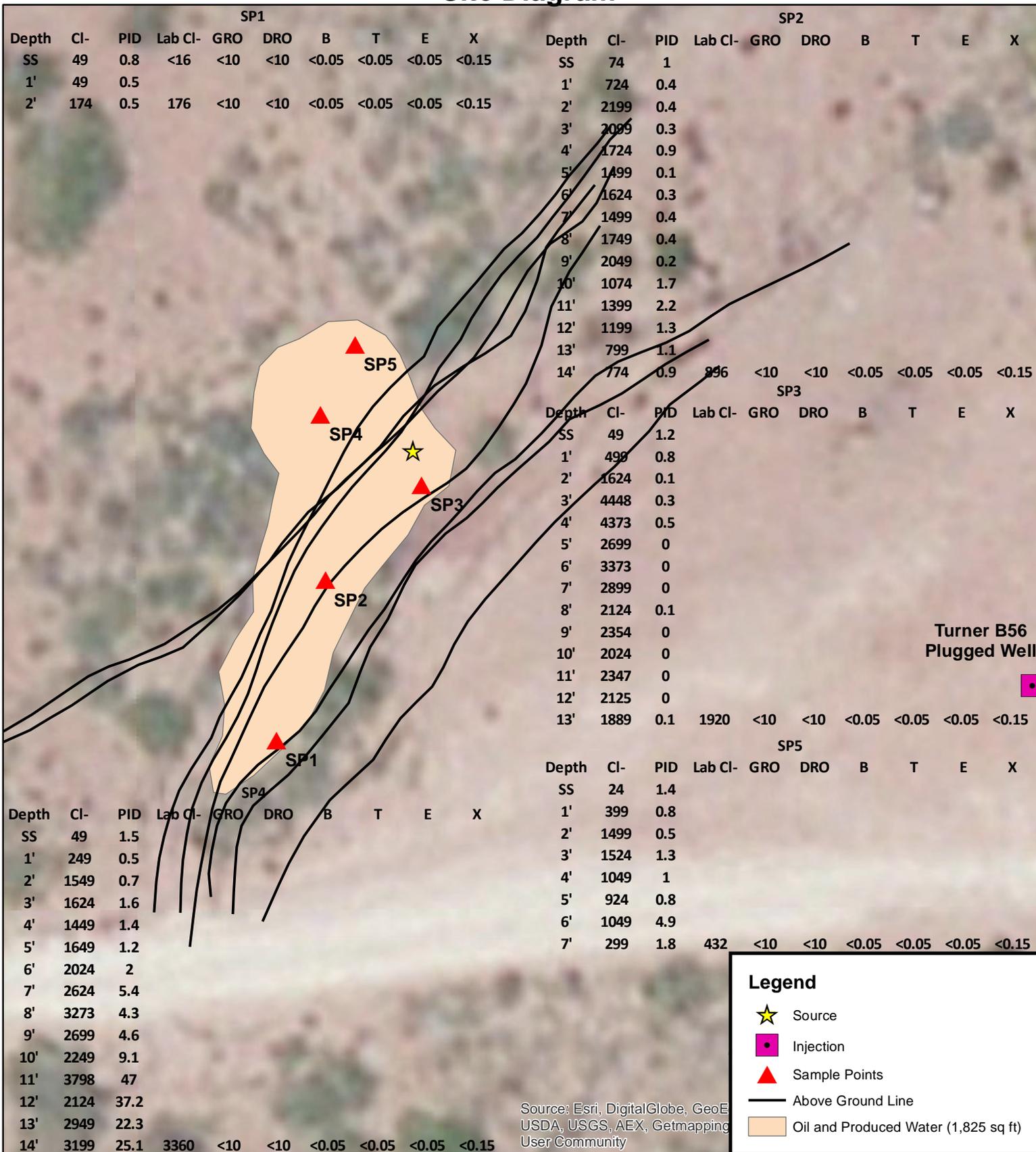


Michael Burton  
Environmental Operations Director | Diversified Field Service, Inc.  
206 West Snyder | Hobbs, NM 88240  
Office: (575)964-8394 | Mobile: (575)390-5454  
Fax: (575)964-8396 | Email: Mburton@diversifiedfsi.com

cc Shelly Tucker (BLM)

Figure 1 – Site Diagram  
Appendix I – Initial C-141  
Appendix II – Laboratory Analysis  
Appendix III – Groundwater Study

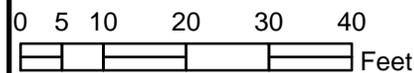
# Site Diagram



**Linn**  
**Turner B #113**  
**Unit Letter N, Section 30, T17S, R31E**  
**API #: 30-015-29573**  
**NMOCD Case #: 2R-1241**

**Figure 1**

Drafted by: L Flores  
 Date: 04/07/2016



# Appendix I

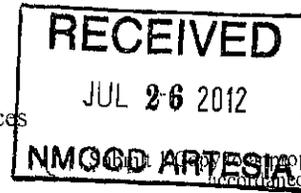
INITIAL C-141

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

District I  
1625 N French Dr, Hobbs, NM 88240  
District II  
1301 W Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S St Francis Dr. Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505



Form C-141  
Revised October 10, 2003  
Appropriate District Office in  
accordance with 19.15.29 NMAC

**Release Notification and Corrective Action**

*JMW 1221463896* OPERATOR  Initial Report  Final Report

Name of Company: Linn Operating <i>269324</i>	Contact: Joe Hernandez
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739
Facility Name: Turner B #113	Facility Type: Oil
Surface Owner: Federal	Mineral Owner: Federal
API No.: 3001529573	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	30	17S	31E	1120	South	2230	West	Eddy

Latitude: 32.8013724601686 Longitude: -103.909588456907

**NATURE OF RELEASE**

Type of Release: Produced Water	Volume of Release: 8	Volume Recovered: 4
Source of Release: Poly pipeline	Date and Hour of Occurrence: 07/13/2012 4pm	Date and Hour of Discovery: 07/13/2012 4:30pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? M. Bratcher-NM OCD Terry Gregston-BLM	
By Whom? Joe Hernandez	Date and Hour 07/16/2012 4:50pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*:

Describe Cause of Problem and Remedial Action Taken.\*: Poly line developed pin hole.

Describe Area Affected and Cleanup Action Taken.\* : About 50 yards west from Turner B 56 Injection well and covered an area 30x25 Basic trk picked up fluid. Further remedial action pending...

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: <i>[Signature]</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Joe Hernandez	Approved by District Supervisor:	Signed By <i>Mike Bratcher</i>
Title: Production Foreman	Approval Date: <b>AUG 01 2012</b>	Expiration Date:
E-mail Address: jhernandez@linenergy.com Date: 07/26/2012 Phone: 575-942-9492	Conditions of Approval:	Attached <input type="checkbox"/>

\* Attach Additional Sheets If Necessary

Remediation per OCD Rules & Guidelines. **SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:**

9/1/12

*2RP-1241*

# Appendix II

## LABORATORY ANALYSIS

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

September 29, 2014

BRIAN WALL

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: TURNER B #113

Enclosed are the results of analyses for samples received by the laboratory on 09/25/14 15:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	09/25/2014	Sampling Date:	09/22/2014
Reported:	09/29/2014	Sampling Type:	Soil
Project Name:	TURNER B #113	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 @ SURFACE (H402938-01)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/26/2014	ND	1.91	95.7	2.00	0.358		
Toluene*	<0.050	0.050	09/26/2014	ND	1.79	89.7	2.00	0.579		
Ethylbenzene*	<0.050	0.050	09/26/2014	ND	1.66	82.8	2.00	1.52		
Total Xylenes*	<0.150	0.150	09/26/2014	ND	4.91	81.8	6.00	1.95		
Total BTEX	<0.300	0.300	09/26/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/26/2014	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	09/25/2014	ND	185	92.3	200	8.51		
DRO >C10-C28	<10.0	10.0	09/25/2014	ND	192	96.2	200	6.04		

Surrogate: 1-Chlorooctane 94.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 101 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	09/25/2014	Sampling Date:	09/22/2014
Reported:	09/29/2014	Sampling Type:	Soil
Project Name:	TURNER B #113	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #1 @ 2' (H402938-02)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2014	ND	1.91	95.7	2.00	0.358	
Toluene*	<0.050	0.050	09/26/2014	ND	1.79	89.7	2.00	0.579	
Ethylbenzene*	<0.050	0.050	09/26/2014	ND	1.66	82.8	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2014	ND	4.91	81.8	6.00	1.95	
Total BTEX	<0.300	0.300	09/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>176</b>	16.0	09/26/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/26/2014	ND	185	92.3	200	8.51	
DRO >C10-C28	<10.0	10.0	09/26/2014	ND	192	96.2	200	6.04	

Surrogate: 1-Chlorooctane 103 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	09/25/2014	Sampling Date:	09/22/2014
Reported:	09/29/2014	Sampling Type:	Soil
Project Name:	TURNER B #113	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #2 @ 14' (H402938-03)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2014	ND	1.91	95.7	2.00	0.358	
Toluene*	<0.050	0.050	09/26/2014	ND	1.79	89.7	2.00	0.579	
Ethylbenzene*	<0.050	0.050	09/26/2014	ND	1.66	82.8	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2014	ND	4.91	81.8	6.00	1.95	
Total BTEX	<0.300	0.300	09/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	09/26/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/26/2014	ND	185	92.3	200	8.51	
DRO >C10-C28	<10.0	10.0	09/26/2014	ND	192	96.2	200	6.04	

Surrogate: 1-Chlorooctane 98.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.8 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	09/25/2014	Sampling Date:	09/25/2014
Reported:	09/29/2014	Sampling Type:	Soil
Project Name:	TURNER B #113	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #3 @ 13' (H402938-04)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2014	ND	1.91	95.7	2.00	0.358	
Toluene*	<0.050	0.050	09/26/2014	ND	1.79	89.7	2.00	0.579	
Ethylbenzene*	<0.050	0.050	09/26/2014	ND	1.66	82.8	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2014	ND	4.91	81.8	6.00	1.95	
Total BTEX	<0.300	0.300	09/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	09/26/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/26/2014	ND	185	92.3	200	8.51	
DRO >C10-C28	<10.0	10.0	09/26/2014	ND	192	96.2	200	6.04	

Surrogate: 1-Chlorooctane 101 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

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\*=Accredited Analyte

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 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	09/25/2014	Sampling Date:	09/22/2014
Reported:	09/29/2014	Sampling Type:	Soil
Project Name:	TURNER B #113	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #4 @ 14' (H402938-05)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2014	ND	1.91	95.7	2.00	0.358	
Toluene*	<0.050	0.050	09/26/2014	ND	1.79	89.7	2.00	0.579	
Ethylbenzene*	<0.050	0.050	09/26/2014	ND	1.66	82.8	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2014	ND	4.91	81.8	6.00	1.95	
Total BTEX	<0.300	0.300	09/26/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3360	16.0	09/26/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/26/2014	ND	185	92.3	200	8.51	
DRO >C10-C28	<10.0	10.0	09/26/2014	ND	192	96.2	200	6.04	

Surrogate: 1-Chlorooctane 101 % 65.2-140

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	09/25/2014	Sampling Date:	09/22/2014
Reported:	09/29/2014	Sampling Type:	Soil
Project Name:	TURNER B #113	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #5 @ 7' (H402938-06)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/26/2014	ND	1.91	95.7	2.00	0.358		
Toluene*	<0.050	0.050	09/26/2014	ND	1.79	89.7	2.00	0.579		
Ethylbenzene*	<0.050	0.050	09/26/2014	ND	1.66	82.8	2.00	1.52		
Total Xylenes*	<0.150	0.150	09/26/2014	ND	4.91	81.8	6.00	1.95		
Total BTEX	<0.300	0.300	09/26/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>432</b>	16.0	09/26/2014	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	09/26/2014	ND	185	92.3	200	8.51		
DRO >C10-C28	<10.0	10.0	09/26/2014	ND	192	96.2	200	6.04		

Surrogate: 1-Chlorooctane 94.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.4 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report



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Celey D. Keene, Lab Director/Quality Manager



# Appendix III

## GROUNDWATER STUDY

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

